<u>WHAT IS CLAIMED IS:</u>

1. A design system for designing new parts of a design unit in a design-space environment including preexisting parts of the design unit, comprising:

at least one CAx system; and

at least one central data base connected to the at least one CAx system via a data circuit configured to exchange data;

wherein a first CAx system includes:

an input device configured to define a design space for a part to be designed and to design the part to be designed in the design space;

a display device configured to display the design space, a design-space environment and parts;

a copying device configured to copy the design space to the central data base;

and wherein the central data base is configured to access the preexisting parts of at least one design unit and includes:

a selection device configured to select the preexisting parts of the design unit that at least one of overlap and border on the design space of the part to be designed and to select the preexisting parts, the design spaces of which at least one of overlap and border on the design space of the part to be designed; and

a copying device configured to copy to the CAx system as a design-space environment the selected parts with data representing a position of the selected parts relative to the design space.

2. The design system according to claim 1, wherein the central data base includes a storage device configured to store data representing a finished part, data representing the design space of the finished part and data representing an installation position of the finished part, the finished part being designed in accordance with the CAx system.

3. The design system according to claim 1, wherein the CAx system includes a storage device configured to store data representing a design-space environment corresponding to the part to be designed.

4. The design system according to claim 1, wherein the CAx system includes a storage device configured to store an organizational data relating to the parts of the design-space environment, the organizational data being selectively available to a user and including, for each part of the design-space environment, data representing at least one of a number, a part number, a version number, a designation, a status and a note.

5. The design system according to claim 4, wherein the status includes at least one of a new status and a modified status.

6. The design system according to claim 1, wherein the CAx system includes a data-storage structure configured to store design-space-environment data assigned to a part, a design-space-environment flag indicating whether a design-space environment is stored for the part and a name of a design-space-environment storage file assigned to a file that includes the data for the part to be designed;

wherein the design-space-environment storage file includes a name of a file that includes an organizational table containing the organizational data for the parts of the design-space environment, the definition of the design space for the part to be designed, a list of the design spaces for the parts of the design-space environment and a name of a file of a design-space-environment assembly; and

wherein the design-space-environment assembly includes data representing the parts of the design-space environment in a format used by the CAx system.

7. The design system according to claim 1, wherein the design system includes a plurality of CAx systems, each of the CAx systems being connected to the at least one central data base via the data circuit.

8. The design system according to claim 1, wherein the design system includes a plurality of central data bases, each of the central data bases being connected to the at least one CAx system via the data circuit, a first central data base being selectable via the CAx system used for the part to be designed.

9. The design system according to claim 1, further comprising an adapter connecting the data circuit and the at least one CAx system and an application

programming interface connecting the data circuit and the at least one central data base, wherein the adapter, the application programming interface and data circuit are configured to transmit data between the at least one CAx system and the at least one central data base.

10. The design system according to claim 1, wherein the design unit includes a motor vehicle.

11. A method for designing new parts of a design unit in a design-space environment that includes preexisting parts of the design unit and with a design system that includes at least one CAx system and at least one central data base, the at least one CAx system and the at least one central data base being interconnected via a data circuit, comprising the steps of:

(a)   copying to the central data base a design space defined in the CAx system by a user and relating to a part to be designed;

(b)   determining, in accordance with the central data base, preexisting parts of the design unit that at least one of border on and overlap the design space of the part to be designed and preexisting parts having design spaces that at least one of border on and overlap the design space of the part to be designed;

(c)   copying to the CAx system the determined preexisting parts and data representing a position of the determined preexisting parts relative to the design space of the part to be design; and

(d)   displaying the determined preexisting parts in a correct position relative to the design space of the part to be designed as a design-space environment for designing the part to be designed.

12. The method according to claim 11, wherein the determining step (b) includes the substeps of:

initially determining in the central data base the design spaces of the preexisting parts that at least one of border on and overlap the design space of the part to be designed;

copying the initially determined design spaces to the CAx system;

copying to the central data base preexisting design spaces that have been selected in the CAx system by a user and preexisting design spaces that have been adjusted in size; and

copying one of in detail form and completely from the central data base to the CAx system preexisting parts contained within selected design spaces and in accordance with the size adjustment.

13. The method according to claim 11, further comprising the step of making the design-space environment visible and invisible in accordance with an input of the user while the user is designing the part to be designed.

14. The method according to claim 11, further comprising the step of storing data representing the design-space environment corresponding to the part to be designed with data representing the part to be designed.

15. The method according to claim 11, further comprising the step of updating the design-space environment while designing the part to be designed.

16. The method according to claim 15, further comprising the step of copying and updating only modified parts from the central data base to the CAx system in accordance with the design-space environment updating step.

17. The method according to claim 11, wherein the design unit includes a motor vehicle, the central data base being configured to access the parts to a plurality of motor vehicles and wherein the method further comprises the step of requesting the design-space environment for a specific vehicle for the part to be designed.

18. The method according to claim 11, further comprising the steps of:

representing the design space and the design-space environment in the CAx system in a design-space coordinate system;

determining at least one of the parts and the design spaces of the parts in the central data base in a design-unit coordinate system;

copying design spaces from the CAx system to the central data base to determine preexisting parts being transformed from the design-space coordinate system to the design-unit coordinate system; and

transforming the copied design spaces and preexisting parts from the design-unit coordinate system to the design-space coordinate system.

19. The method according to claim 11, further comprising the step of converting by the CAx system for the part to be designed data representing the design-space environment into a format usable by the CAx system if the data representing the preexisting parts of the design space environment is received in a different format.

20. The method according to claim 11, further comprising the step of temporarily storing in the CAx system data for managing the parts of the design-space environment, the data for managing the parts of the design-space environment being accessible by the user.

21. The method according to claim 20, wherein the data for managing the parts of the design-space environment includes data representing at least one of a part number, a version number and a designation.

22. The method according to claim 11, wherein the at least one central data base includes a plurality of central data bases, the method further comprising the step of determining the design-space environment in accordance with a selected one of the central data bases.

23. The method according to claim 11, further comprising the step of copying a finished part to the central data base, the finished part selectively representing a component of a subsequently defined design-space environment.